

STRUCTURE SEARCH

=&gt; d his l39

(FILE 'HCAPLUS' ENTERED AT 15:37:20 ON 23 APR 2009)

L39 27 S L35 AND (L37 OR L38)  
 SAV TEMP L39 PEZ397HCP/A

=&gt; d que stat l39

L15 81738 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON 100-42-5/CRN

L16 STR



## NODE ATTRIBUTES:

NSPEC IS RC AT 2  
 NSPEC IS RC AT 4  
 NSPEC IS RC AT 5

DEFAULT MLEVEL IS ATOM

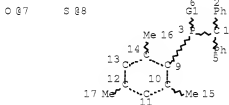
DEFAULT ELEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 5

## STEREO ATTRIBUTES: NONE

L18 STR



VAR G1=7/8

## NODE ATTRIBUTES:

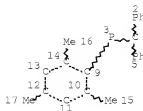
CONNECT IS E1 RC AT 7  
 CONNECT IS E1 RC AT 8  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ELEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 16

## STEREO ATTRIBUTES: NONE

L19 10854 SEA FILE=REGISTRY SSS FUL L16  
 L22 2 SEA FILE=REGISTRY SUB=L19 SSS FUL L18  
 L27 2 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L19 AND L15  
 L29 STR



## NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 13

## STEREO ATTRIBUTES: NONE

L31 42 SEA FILE=REGISTRY SUB=L19 SSS FUL L29  
 L32 2 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L22 AND L19  
 L33 15 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L19 AND  
 PMS/CI  
 L34 50 SEA FILE=REGISTRY SPE=ON ABB=ON PLU=ON L27 OR (L31  
 OR L32 OR L33)  
 L35 40 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L34  
 L37 QUE SPE=ON ABB=ON PLU=ON PY=<2003 NOT P/DT  
 L38 QUE SPE=ON ABB=ON PLU=ON (PY=<2003 OR PRY=<2003 OR  
 AY=<2003 OR MY=<2003 OR REVIEW/DT) AND P/DT  
 L39 27 SEA FILE=HCAPLUS SPE=ON ABB=ON PLU=ON L35 AND (L37  
 OR L38)

STRUCTURE SEARCH RESULTS

=&gt; d 139 1-27 ibib ed abs hitstr hitind

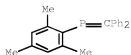
L39 ANSWER 1 OF 27 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2004:534258 HCAPLUS Full-text  
 DOCUMENT NUMBER: 141:89559  
 TITLE: Polymerization of phosphalkenes  
 INVENTOR(S): Gates, Derek; Tsang, Chu-wai; Yam, Mandy  
 PATENT ASSIGNEE(S): The University of British Columbia, Can.  
 SOURCE: PCT Int. Appl., 42 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004055098	A2	20040701	WO 2003-CA1982	2003 1216
<--				
WO 2004055098	A3	20040902		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, ME, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: BW, GH, GM, KE, LS, MW, ME, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2508979	A1	20040701	CA 2003-2508979	2003 1216
<--				
AU 2003292925	A1	20040709	AU 2003-292925	2003 1216
<--				
US 20060270805	A1	20061130	US 2006-539397	2006 0117
<--				
PRIORITY APPLN. INFO.:			US 2002-433507P	P 2002 1216
<--				
			WO 2003-CA1982	W 2003 1216
<--				
ED	Entered STN: 02 Jul 2004			
AB	Methods for polymerization of phosphalkenes using initiators are provided. Also provided are polymers and copolymers in which the polymer backbone contains tracts of carbon and phosphorus atoms in approx. equimolar amts. C-P bonds in the polymers of this invention may be predominantly in a head-to-tail arrangement or mixed arrangements. Copolymers may comprise polyolefin monomer units. Thus, 20.0 g mesityl bis(trimethylsilyl)phosphine and 12.3 g benzophenone was reacted in the presence of anhydrous potassium hydroxide and distilled at 150-160° to give 12.0 g			

## 10/539,397-292586-EIC SEARCH

mesityl(diphenylmethylene)phosphine, 1.00 g of which was polymerized in the presence of 0.08 g VAZO 88 1,1'-azobis(cyclohexanecarbonitrile) at 200° for 48 h to give a copolymer with yield 16%.

IT 67565-91-7P, Phosphine,  
(diphenylmethylene)(2,4,6-trimethylphenyl)-  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP  
(Preparation); RACT (Reactant or reagent)  
(monomer or optionally intermediate for initiator preparation;  
polymerization of phosphalkenes)  
RN 67565-91-7 HCAPLUS  
CN Phosphine, (diphenylmethylene)(2,4,6-trimethylphenyl)- (CA INDEX  
NAME)

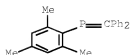


IT 501418-46-8P, Phosphine,  
(diphenylmethylene)(2,4,6-trimethylphenyl)-, homopolymer  
RL: IMF (Industrial manufacture); RCT (Reactant); PREP  
(Preparation); RACT (Reactant or reagent)  
(optionally intermediate; polymerization of phosphalkenes)  
RN 501418-46-8 HCAPLUS  
CN Phosphine, (diphenylmethylene)(2,4,6-trimethylphenyl)-,  
homopolymer (CA INDEX NAME)

CM 1

CRN 67565-91-7

CMF C22 H21 P

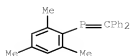


IT 501418-46-8DP, Phosphine,  
(diphenylmethylene)(2,4,6-trimethylphenyl)-, homopolymer, modified  
713542-93-9DP, oxidized 713542-95-1DP, oxidized  
713542-97-3DP, oxidized 713542-99-5DP, oxidized  
713543-00-1P 713543-01-2DP, oxidized  
713543-02-3DP, oxidized 713543-03-4DP, oxidized  
RL: IMF (Industrial manufacture); PREP (Preparation)  
(polymerization of phosphalkenes)  
RN 501418-46-8 HCAPLUS  
CN Phosphine, (diphenylmethylene)(2,4,6-trimethylphenyl)-,  
homopolymer (CA INDEX NAME)

CM 1

CRN 67565-91-7

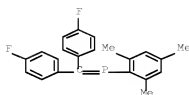
CMF C22 H21 P



RN 713542-93-9 HCAPLUS  
 CN Phosphine, [bis(4-fluorophenyl)methylene] (2,4,6-trimethylphenyl)-,  
 homopolymer (9CI) (CA INDEX NAME)

CM 1

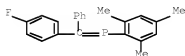
CRN 713542-92-8  
 CMF C22 H19 F2 P



RN 713542-95-1 HCAPLUS  
 CN Phosphine, [(4-fluorophenyl)phenylmethylene] (2,4,6-  
 trimethylphenyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

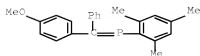
CRN 713542-94-0  
 CMF C22 H20 F P



RN 713542-97-3 HCAPLUS  
 CN Phosphine, [(4-methoxyphenyl)phenylmethylene] (2,4,6-  
 trimethylphenyl)-, homopolymer (CA INDEX NAME)

CM 1

CRN 713542-96-2  
 CMF C23 H23 O P

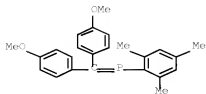


# 10/539,397-292586-EIC SEARCH

RN 713542-99-5 HCAPLUS  
 CN Phosphine, [bis(4-methoxyphenyl)methylene] (2,4,6-trimethylphenyl)-  
 , homopolymer (9CI) (CA INDEX NAME)

CM 1

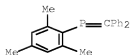
CRN 713542-98-4  
 CMF C24 H25 O2 P



RN 713543-00-1 HCAPLUS  
 CN 2-Propenoic acid, 2-methyl-, methyl ester, polymer with  
 (diphenylmethylene) (2,4,6-trimethylphenyl)phosphine (9CI) (CA  
 INDEX NAME)

CM 1

CRN 67565-91-7  
 CMF C22 H21 P



CM 2

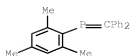
CRN 80-62-6  
 CMF C5 H8 O2



RN 713543-01-2 HCAPLUS  
 CN 2-Propenoic acid, 2-ethylhexyl ester, polymer with  
 (diphenylmethylene) (2,4,6-trimethylphenyl)phosphine (9CI) (CA  
 INDEX NAME)

CM 1

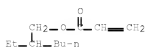
CRN 67565-91-7  
 CMF C22 H21 P



CM 2

CRN 103-11-7

CMF C11 H20 O2



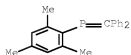
RN 713543-02-3 HCAPLUS

CN 2-Propenoic acid, butyl ester, polymer with  
(diphenylmethylene)(2,4,6-trimethylphenyl)phosphine (9CI) (CA  
INDEX NAME)

CM 1

CRN 67565-91-7

CMF C22 H21 P



CM 2

CRN 141-32-2

CMF C7 H12 O2



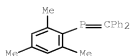
RN 713543-03-4 HCAPLUS

CN Phosphine, (diphenylmethylene)(2,4,6-trimethylphenyl)-, polymer  
with ethenylbenzene (9CI) (CA INDEX NAME)

CM 1

CRN 67565-91-7

CMF C22 H21 P



CM 2

CRN 100-42-5

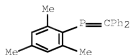
CMF C8 H8

H<sub>2</sub>C=CH-Ph

IC ICM C08G079-00  
 CC 35-4 (Chemistry of Synthetic High Polymers)  
 IT 67565-91-7P, Phosphine,  
 (diphenylmethylene) (2,4,6-trimethylphenyl)-  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (monomer or optionally intermediate for initiator preparation;  
 polymerization of phosphaaalkenes)  
 IT 501418-46-8P, Phosphine,  
 (diphenylmethylene) (2,4,6-trimethylphenyl)-, homopolymer  
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (optionally intermediate; polymerization of phosphaaalkenes)  
 IT 7722-84-IDP, Hydrogen peroxide, reaction products with  
 polymethylenephosphine 10544-50-ODP, Octasulfur, reaction  
 products with polymethylenephosphine, preparation 14044-65-6DP,  
 Borane tetrahydrofuran, reaction products with  
 polymethylenephosphine 334992-56-2DP, Methanol, trifluoro-,  
 methanesulfonate, reaction products with polymethylenephosphine  
 501418-46-8DP, Phosphine,  
 (diphenylmethylene) (2,4,6-trimethylphenyl)-, homopolymer, modified  
 713542-93-9DP, oxidized 713542-95-IDP, oxidized  
 713542-97-3DP, oxidized 713542-99-5DP, oxidized  
 713543-00-1P 713543-01-2DP, oxidized  
 713543-02-3DP, oxidized 713543-03-4DP, oxidized  
 RL: IMF (Industrial manufacture); PREP (Preparation)  
 (polymerization of phosphaaalkenes)  
 REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT  
 L39 ANSWER 2 OF 27 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 2003:594444 HCAPLUS Full-text  
 DOCUMENT NUMBER: 139:365235  
 TITLE: New functional inorganic polymers containing  
 phosphorus  
 AUTHOR(S): Gates, Derek P.; Tsang, Chi-Wing; Wright,  
 Vincent A.; Yam, Mandy  
 CORPORATE SOURCE: Department of Chemistry, University of British  
 Columbia, Vancouver, BC, V6T 1Z1, Can.  
 SOURCE: Macromolecular Symposia (2003),  
 196(Metal- and Metalloid-Containing  
 Macromolecules), 271-278  
 CODEN: MSYMEC; ISSN: 1022-1360  
 PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA  
 DOCUMENT TYPE: Journal; General Review

## 10/539,397-292586-EIC SEARCH

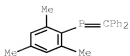
LANGUAGE: English  
 ED Entered STN: 04 Aug 2003  
 AB A review describes the addition polymerization reaction as a general method for the polymerization of P=C bonds. The new macromol. is of moderate mol. weight (ca. 104 g/mol) and the oxidized polymers are air-stable. Poly(p-phenylenephosphaalkene), the first  $\pi$ -conjugated polymer containing P=C bonds in the backbone, has been prepared. The UV/Vis spectrum of this polymer shows a red shift in  $\lambda_{\text{max}}$  when compared with mol. model systems.  
 IT 501418-46-8D, derivs.  
 RL: MSC (Miscellaneous)  
 (new functional inorg. polymers containing phosphorus)  
 RN 501418-46-8 HCAPLUS  
 CN Phosphine, (diphenylmethylene) (2,4,6-trimethylphenyl)-, homopolymer (CA INDEX NAME)  
 CM 1  
 CRN 67565-91-7  
 CMF C22 H21 P



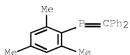
CC 35-0 (Chemistry of Synthetic High Polymers)  
 IT 501418-46-8D, derivs.  
 RL: MSC (Miscellaneous)  
 (new functional inorg. polymers containing phosphorus)  
 REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE  
 FOR THIS RECORD. ALL CITATIONS AVAILABLE  
 IN THE RE FORMAT

L39 ANSWER 3 OF 27 HCAPLUS COPYRIGHT 2009 ACS ON STN  
 ACCESSION NUMBER: 2003:45379 HCAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 138:238494  
 TITLE: The Addition Polymerization of a P:C Bond: A Route to New Phosphine Polymers  
 AUTHOR(S): Tsang, Chi-Wing; Yam, Mandy; Gates, Derek P.  
 CORPORATE SOURCE: Department of Chemistry, University of British Columbia, Vancouver, BC, V6T 1Z1, Can.  
 SOURCE: Journal of the American Chemical Society (2003), 125(6), 1480-1481  
 CODEN: JACSAT; ISSN: 0002-7863  
 PUBLISHER: American Chemical Society  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 ED Entered STN: 21 Jan 2003

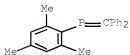
AB Addition polymerization, the most general method of preparation for organic polymers, has successfully been extended to P:C bonds. The polymerization of a phospho-alkene was initiated by thermolysis or with alkylolithium reagents. The unprecedented poly(methylenephosphine)s are easily oxidized using oxygen or sulfur to give air stable macromols. A mol. weight (Mw) of 35000 g/mol for the poly(methylenephosphine sulfide) was estimated by light-scattering GPC.  
 IT 67565-91-7P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
 (monomer; new route to phosphine polymers by addition polymerization of a P:C bond)  
 RN 67565-91-7 HCAPLUS  
 CN Phosphine, (diphenylmethylene) (2,4,6-trimethylphenyl)- (CA INDEX NAME)



IT 501418-46-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (new route to phosphine polymers by addition polymerization of a P:C  
 bond)  
 RN 501418-46-8 HCAPLUS  
 CN Phosphine, (diphenylmethylene)(2,4,6-trimethylphenyl)-,  
 homopolymer (CA INDEX NAME)  
 CM 1  
 CRN 67565-91-7  
 CMF C22 H21 P



IT 501418-46-8DP, oxidized or reaction products with sulfur  
 (S8)  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (new route to phosphine polymers by addition polymerization of a P:C  
 bond)  
 RN 501418-46-8 HCAPLUS  
 CN Phosphine, (diphenylmethylene)(2,4,6-trimethylphenyl)-,  
 homopolymer (CA INDEX NAME)  
 CM 1  
 CRN 67565-91-7  
 CMF C22 H21 P



CC 35-4 (Chemistry of Synthetic High Polymers)  
 IT 67565-91-7P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (monomer; new route to phosphine polymers by addition polymerization of a  
 P:C bond)  
 IT 501418-46-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)

## 10/539,397-292586-EIC SEARCH

(new route to phosphine polymers by addition polymerization of a P:C bond)

IT 10544-50-ODP, Sulfur (S8), reaction products with poly(methylenephosphine), preparation 501418-46-8DP, oxidized or reaction products with sulfur (S8)  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (new route to phosphine polymers by addition polymerization of a P:C bond)

REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 4 OF 27 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 2002:548953 HCAPLUS Full-text

DOCUMENT NUMBER: 137:248057

TITLE: Poly(p-phenylenephosphaalkene): A  $\pi$ -conjugated macromolecule containing P=C bonds in the main chain

AUTHOR(S): Wright, Vincent A.; Gates, Derek P.  
 CORPORATE SOURCE: Department of Chemistry, University of British Columbia, Vancouver, BC, V6T 1Z1, Can.

SOURCE: Angewandte Chemie, International Edition (2002), 41(13), 2389-2392  
 CODEN: ACIEF5; ISSN: 1433-7851

PUBLISHER: Wiley-VCH Verlag GmbH

DOCUMENT TYPE: Journal

LANGUAGE: English

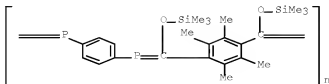
ED Entered STN: 24 Jul 2002

AB An unprecedented yellow polymer with low-coordinate phosphorus atoms in the backbone was prepared from tetramethylterephthaloyl chloride and 1,4-phenylenebis[bis(trimethylsilyl)phosphine]. The material is soluble in polar organic solvents, and moderate mol. wts. ( $M_n = 2900$ -10,500 g mol<sup>-1</sup>) were estimated from <sup>31</sup>P NMR spectroscopic end-group anal. The UV/visible spectra of the poly(p-phenylenephosphaalkene) in THF solution revealed a broad absorbance ( $\lambda_{max} = 328$ -338 nm) and a tail stretching into the visible region. The bathochromic shift observed for the polymer compared with model compds. suggested some degree of  $\pi$ -conjugation through the phenylene and P=C units. The red shift was less than that for trans-poly(p-phenylenevinylene) compared with trans-stilbene (ca. 426 nm vs. 294/307 nm), which was attributed to conformational nonplanarity in the main chain caused by the bulky tetramethylphenylene groups in the polymer.

IT 460997-98-2P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (poly(p-phenylenephosphaalkene)  $\pi$ -conjugated polymer containing P=C bonds in main chain)

RN 460997-98-2 HCAPLUS

CN Poly[phosphinidyne-1,4-phenylenephosphinidyne] [(trimethylsilyl)oxy]methylidyne] (2,3,5,6-tetramethyl-1,4-phenylene) [(trimethylsilyl)oxy]methylidyne] (9CI) (CA INDEX NAME)



CC 35-5 (Chemistry of Synthetic High Polymers)

IT 460997-97-1P 460997-98-2P

RL: PRP (Properties); SPN (Synthetic preparation); PREP

## (Preparation)

(poly(p-phenylenephosphaalkene)  $\pi$ -conjugated polymer containing  
P=C bonds in main chain)

REFERENCE COUNT: 65 THERE ARE 65 CITED REFERENCES AVAILABLE  
FOR THIS RECORD. ALL CITATIONS AVAILABLE  
IN THE RE FORMAT

L39 ANSWER 5 OF 27 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1997:344444 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 127:81515

ORIGINAL REFERENCE NO.: 127:15633a,15636a

TITLE: Thermal reactions of  
5-alkylidene-4,5-dihydro-3H-1,2,4( $\lambda$ 3)-d  
iazaphospholes (4-phosphapyrazolines). A route  
to various P-heterocycles and to  
2-phosphabutadienes

AUTHOR(S): Manz, Berthold; Bergstrasser, Uwe; Kerth,  
Jochen; Maas, Gerhard

CORPORATE SOURCE: Fachbereich Chemie, Universitat  
Kaiserslautern, Kaiserslautern, D-67663,  
Germany

SOURCE: Chemische Berichte/Recueil (1997),  
130(6), 779-788

CODEN: CHBRFW

PUBLISHER: Wiley-VCH

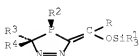
DOCUMENT TYPE: Journal

LANGUAGE: English

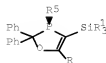
OTHER SOURCE(S): CASREACT 127:81515

ED Entered STN: 31 May 1997

GI



I



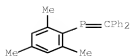
II

AB 5-Alkylidene-4,5-dihydro-3H-1,2,4( $\lambda$ 3)-diazaphospholes (4-phosphapyrazolines) are thermally much more stable than related compds. without the exocyclic double bond. Thermolysis typically occurs at 110-150° in toluene and different, mostly competing, reaction pathways are observed. Thermal extrusion of N from phosphapyrazolines I [R = CHMe2; R1 = CMe3, 1-adamantyl, Me, 4-MeOC6H4, 4-O2NC6H4 or SiR3 = SiMe2CMe3 or SiMe2CMe3, R1 = CMe3 with R2 = mesityl, R3 = R4 = Ph] gives rise to  $\beta$ -phosphinyl siloxy alkenes, benzo[c]phospholes, ( $\beta$ -siloxyalkylidene)phosphiranes, and the appropriate dihydro-1,3-oxaphospholes II (R5 = mesityl). Thermolysis of I (R = CMe3, 1-adamantyl; R1 = CHMe2; R2 = SiMe3; R3 = CMe3; R4 = OSiMe3) afforded 3 products, including the corresponding highly substituted and stable phosphabutadienes (E,Z)-Me3SiO(Me3C)C:PC(SiMe3):CROSi(CHMe2)3 (III) formed by N extrusion and rearrangement. Finally, I (R = CMe3, R1 = CHMe2, R2 = Cl, R3 = CMe3, R4 = OSiMe3) was transformed at 170° into a 4H-1,2,4-diazaphosphole. The structures of II (R = CMe3, R1 = SiPh2CMe3, R5 = mesityl) and III (R = CMe3) were determined by single-crystal x-ray diffraction.

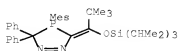
IT 67865-91-7, Mesityl(diphenylmethylene)phosphine  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation of phosphorus heterocycles and phosphabutadienes by  
thermal rearrangement and decomposition of  
alkylidenedihydrodiazaphospholes)

RN 67565-91-7 HCAPLUS

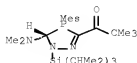
CN Phosphine, (diphenylmethylene) (2,4,6-trimethylphenyl)- (CA INDEX  
NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)  
 Section cross-reference(s): 75  
 IT 67565-91-7, Mesityl(diphenylmethylene)phosphine  
 106435-59-0, 1-Diazo-1-(triisopropylsilyl)-2-propanone  
 162931-67-1 162931-68-2 181256-80-4 181256-81-5  
 181256-87-1 181256-89-3 181256-91-7 181256-92-8  
 181256-97-3  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of phosphorus heterocycles and phosphabutadienes by  
 thermal rearrangement and decomposition of  
 alkylidenedihydrodiazaphospholes)  
 L39 ANSWER 6 OF 27 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1996:457583 HCAPLUS Full-text  
 DOCUMENT NUMBER: 125:221959  
 ORIGINAL REFERENCE NO.: 125:41489a, 41492a  
 TITLE: Synthesis of  
 5-alkylidene-4,5-dihydro-3H-1,2,4(λ3)-d  
 iazaphospholes from  
 α-silyl-α-diazoketones and  
 phosphaaalkenes  
 AUTHOR(S): Manz, Berthold; Mass, Gerhard  
 CORPORATE SOURCE: Fachbereich Chemie, Univ. Kaiserslautern,  
 Kaiserslautern, D-67663, Germany  
 SOURCE: Tetrahedron (1996), 52(30),  
 10053-10072  
 CODEN: TETRAB; ISSN: 0040-4020  
 PUBLISHER: Elsevier  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 125:221959  
 ED Entered STN: 02 Aug 1996  
 GI



I

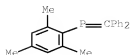


II

AB 5-Alkylidene-4,5-dihydro-3H-1,2,4(λ3)-diazaphospholes arise from [3+2] cycloaddn.  
 reaction between various, differently substituted phosphaaalkenes and 2-siloxy-1-  
 diazoalkenes that are present to a minor extent in a thermal equilibrium with α-silyl-  
 α-diazoketones. The cycloaddn. products, e.g. I, are sufficiently thermally stable to  
 be isolated. In other cases, silyl group migration (ring C → N or O → N) leads to  
 isomeric N-silyl-1,2,4-diazaphospholes. The crystal structures of I and II (Mes =  
 mesityl) were determined  
 IT 67565-91-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (cycloaddn. reaction with silyldiazoketone)  
 RN 67565-91-7 HCAPLUS

## 10/539,397-292586-EIC SEARCH

CN Phosphine, (diphenylmethylene) (2,4,6-trimethylphenyl)- (CA INDEX NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 75

IT 63853-15-6 67565-91-7 74483-17-3 78129-68-7

79908-16-0 81979-44-4 181256-96-2

RL: RCT (Reactant); RACT (Reactant or reagent)

(cycloaddn. reaction with silyldiazoketone)

L39 ANSWER 7 OF 27 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1995:334236 HCAPLUS Full-text

DOCUMENT NUMBER: 122:290959

ORIGINAL REFERENCE NO.: 122:53055a,53058a

TITLE: Synthesis of alkylidenephosphiranes by  
extrusion of nitrogen from  
3-alkylidene-4,5-dihydro-3H-1,2,4-diazaphospho-  
les

AUTHOR(S): Manz, Berthold; Maas, Gerhard

CORPORATE SOURCE: Fachbereich Chemie, Universitaet  
Kaiserslautern, Kaiserslautern, D-67663,  
Germany

SOURCE: Journal of the Chemical Society, Chemical  
Communications (1995), (1), 25-6  
CODEN: JCCCAT; ISSN: 0022-4936

PUBLISHER: Royal Society of Chemistry

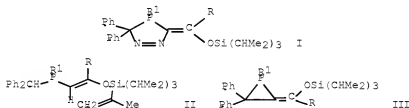
DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 122:290959

ED Entered STN: 04 Feb 1995

GI



AB The 3-alkylidene-4,5-dihydro-3H-1,2,4-diazaphospholes I (R = Me<sub>3</sub>C, 1-adamantyl; R<sub>1</sub> = mesityl), obtained from R1P:CPh<sub>2</sub> and silyl diazo ketones RCOC(:N<sub>2</sub>)Si(CHMe<sub>2</sub>)<sub>3</sub>, undergo thermal extrusion of N to form alkenyl phosphines II and alkylidenephosphiranes III; the structures of these products were established by single crystal x-ray structure analyses.

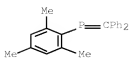
IT 67565-91-7

RL: RCT (Reactant); RACT (Reactant or reagent)  
(alkylidenedihydrodiazaphospholes from)

RN 67565-91-7 HCAPLUS

CN Phosphine, (diphenylmethylene) (2,4,6-trimethylphenyl)- (CA INDEX

NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)  
 Section cross-reference(s): 75  
 IT 67565-91-7 106435-62-5 126419-13-4  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (alkylidenedihydrodiazaphospholes from)

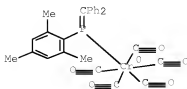
L39 ANSWER 8 OF 27 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1987:423447 HCAPLUS Full-text  
 DOCUMENT NUMBER: 107:23447  
 ORIGINAL REFERENCE NO.: 107:3967a,3970a  
 TITLE: P-Coordinated Group VI metal(0) pentacarbonyl  
 complexes of multiple-bond organophosphorus  
 compounds in the low-coordination state  
 AUTHOR(S): Yoshifuji, Masaaki; Shibayama, Katsuhiro;  
 Hashida, Takashi; Toyota, Kozo; Niitsu,  
 Takashi; Matsuda, Ikumi; Sato, Takahiro;  
 Inamoto, Naoki  
 CORPORATE SOURCE: Fac. Sci., Univ. Tokyo, Tokyo, 113, Japan  
 SOURCE: Journal of Organometallic Chemistry ( 1986), 311(3), C63-C67  
 CODEN: JORCAI; ISSN: 0022-328X

DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 ED Entered STN: 25 Jul 1987

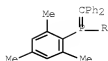
AB The <sup>31</sup>P NMR of Group VI metal(0) carbonyl complexes of diphosphenes, phosphaethylenes, 1-phosphaallene, and 1,3-diphosphaallene with the P atom in the low coordination state were determined. The <sup>31</sup>P chemical shifts of these complexes correlate to one another: the structures in solution could be determined by taking into account the correlation and P-W coupling consts. in <sup>31</sup>P NMR.

IT 78506-28-2 78777-19-2 108786-72-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (phosphorus-31 NMR spectral characteristics of)

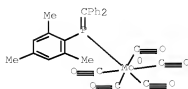
RN 78506-28-2 HCAPLUS  
 CN Chromium, pentacarbonyl[(diphenylmethylene)(2,4,6-trimethylphenyl)phosphine]-, (OC-6-22)- (CA INDEX NAME)



RN 78777-19-2 HCAPLUS  
 CN Tungsten, pentacarbonyl[(diphenylmethylene)(2,4,6-trimethylphenyl)phosphine]-, (OC-6-22)- (CA INDEX NAME)



RN 108786-72-7 HCAPLUS  
 CN Molybdenum, pentacarbonyl[(diphenylmethylene)(2,4,6-trimethylphenyl)phosphine]-, (OC-6-22)- (CA INDEX NAME)



CC 29-11 (Organometallic and Organometalloidal Compounds)  
 Section cross-reference(s): 22  
 IT 78506-28-2 78777-19-2 90599-67-0 99279-48-8 108771-14-8  
 99279-52-4 99279-53-5 99331-06-3 99395-83-2 108786-67-0 108786-68-1 108786-69-2 108786-70-5  
 108786-71-6 108786-72-7 108786-73-8 108786-74-9  
 108786-75-0 108865-29-8 108865-30-1 108865-31-2  
 108865-32-3 108865-33-4 108865-34-5 108865-35-6  
 108865-36-7 108865-37-8 108866-78-0 108866-79-1  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (phosphorus-31 NMR spectral characteristics of)

L39 ANSWER 9 OF 27 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1987:59303 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 106:59303

ORIGINAL REFERENCE NO.: 106:9659a,9662a

TITLE: Acyl- and alkylidenephosphines. XXIX.  
 Molecular and crystal structure of  
 orthorhombic  
 (diphenylmethylidene)mesitylphosphine

AUTHOR(S): Mundt, O.; Becker, G.; Uhl, W.; Massa, W.;  
 Birkhahn, M.

CORPORATE SOURCE: Inst. Anorg. Chem., Univ. Stuttgart,  
 Stuttgart, D-7000/80, Fed. Rep. Ger.

SOURCE: Zeitschrift fuer Anorganische und Allgemeine  
 Chemie (1986), 540-541, 319-35  
 CODEN: ZAACAB; ISSN: 0044-2313

DOCUMENT TYPE: Journal  
 LANGUAGE: German

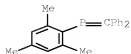
ED Entered STN: 21 Feb 1987

AB The title compound at  $-125 \pm 3^\circ$  is orthorhombic, space group  $Pbca$ , with  $a$  951.2(7),  $b$  2115.8(9), and  $c$  1737.0(18) pm;  $Z = 8$ . Atomic coordinates are given. Bond lengths and angles (P-C 169.3(2), P-C 183.3(2) pm, C-P-C 107.6(2)°, P-C-C 124.8(2)° and 118.0(2)°) are in almost exact conformity with those obtained from a monoclinic polymorph. With respect to mol. conformation, however, the title compound resembles the homologous (diphenylmethylidene)mesitylamine.

IT 67565-91-7, (Diphenylmethylidene)mesitylphosphine

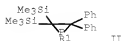
## 10/539,397-292586-EIC SEARCH

RL: PRP (Properties)  
 (crystal structure of orthorhombic)  
 RN 67565-91-7 HCAPLUS  
 CN Phosphine, (diphenylmethylene) (2,4,6-trimethylphenyl)- (CA INDEX NAME)

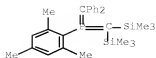


CC 75-8 (Crystallography and Liquid Crystals)  
 Section cross-reference(s): 29  
 IT 67565-91-7, (Diphenylmethylidene)mesitylphosphine  
 RL: PRP (Properties)  
 (crystal structure of orthorhombic)

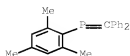
L39 ANSWER 10 OF 27 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1986:460681 HCAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 105:60681  
 ORIGINAL REFERENCE NO.: 105:9927a,9930a  
 TITLE: Low-coordinated phosphorus compounds. 45.  
 Mixed substituted bismethylenephosphoranes by  
 the reaction of carbenoids with phosphalkenes  
 AUTHOR(S): Appel, Rolf; Gaitzsch, Thomas; Knoch, Falk;  
 Lenz, Gerhard  
 CORPORATE SOURCE: Anorg.-Chem. Inst., Univ. Bonn, Bonn,  
 D-5300/1, Fed. Rep. Ger.  
 SOURCE: Chemische Berichte (1986), 119(6),  
 1977-85  
 CODEN: CHBEAM; ISSN: 0009-2940  
 DOCUMENT TYPE: Journal  
 LANGUAGE: German  
 OTHER SOURCE(S): CASREACT 105:60681  
 ED Entered STN: 23 Aug 1986  
 GI



AB The reaction of R1P:CR2R3 (R1 = Me3C, Ph, mesityl; R2, R3 = Ph, Me3Si) with R2C(Li)Cl  
 (R = Ph, Me3Si) gave 7 R1P(:CR2):CR2R3 (I). I rearranged to give 77-89% phosphiranes II  
 (R = Ph, Me3C). The crystal structures of 2,4,6-Me3C6H2P(:CPh2):C(SiMe3)2 and II (R1 =  
 Ph) were determined  
 IT 100993-28-0P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP  
 (Preparation)  
 (preparation and spectra of)  
 RN 100993-28-0 HCAPLUS  
 CN Phosphine, [bis(trimethylsilyl)methylene](diphenylmethylene) (2,4,6-  
 trimethylphenyl)- (CA INDEX NAME)



IT 67565-91-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with carbenoids, bismethylenephosphanes from)  
 RN 67565-91-7 HCAPLUS  
 CN Phosphine, (diphenylmethylene) (2,4,6-trimethylphenyl)- (CA INDEX NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)  
 Section cross-reference(s): 75  
 IT 56431-99-3P 80359-67-7P 96041-40-6P 100938-89-4P  
 100938-90-7P 100938-91-8P 100993-28-0P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP  
 (Preparation)  
 (preparation and spectra of)  
 IT 67565-91-7 78928-40-2 78928-41-3 81979-44-4  
 89982-70-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with carbenoids, bismethylenephosphanes from)

L39 ANSWER 11 OF 27 HCAPLUS COPYRIGHT 2009 ACS ON STN

ACCESSION NUMBER: 1985:166931 HCAPLUS Full-text

DOCUMENT NUMBER: 102:166931

ORIGINAL REFERENCE NO.: 102:26253a,26256a

TITLE: The  $\eta^1$ - and  $\eta^2$ -coordination in  
 phosphaaalkeneplatinum(0) complexes. High  
 resolution solid state phosphorus-31 NMR  
 spectrum of  
 mesityl(diphenylmethylene)phosphinebis(triphenylphosphine)platinum(0)

AUTHOR(S): Kroto, Harold W.; Klein, Stanley I.; Meldine,  
 Mohamed F.; Nixon, John F.; Harris, Robin K.;  
 Packer, Kenneth J.; Reams, Patrick  
 CORPORATE SOURCE: Sch. Chem. Mol. Sci., Univ. Sussex, Brighton,  
 BN1 9QJ, UK

SOURCE: Journal of Organometallic Chemistry ( 1985), 280(2), 281-7

CODEN: JORCAI; ISSN: 0022-328X

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 18 May 1985

AB The high resolution solid state 31P NMR spectrum of Pt(PPh3)2(PR:CPh2) (R = mesityl) shows the expected features for an  $\eta^1$ -coordinated phosphaaalkene ligand and is completely different from that of the  $\eta^2$ -complex with exists in solution

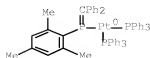
IT 80737-43-5  
 RL: PRP (Properties)  
 (phosphorus-31 NMR spectrum of, solid state, coordination in)

RN 80737-43-5 HCAPLUS

CN Platinum, [(diphenylmethylene) (2,4,6-

## 10/539,397-292586-EIC SEARCH

trimethylphenyl)phosphine]bis(triphenylphosphine)- (CA INDEX NAME)



CC 29-13 (Organometallic and Organometalloidal Compounds)  
Section cross-reference(s): 22  
IT 80737-43-5  
RL: PRP (Properties)  
(phosphorus-31 NMR spectrum of, solid state, coordination in)

L39 ANSWER 12 OF 27 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:630744 HCAPLUS Full-text

DOCUMENT NUMBER: 101:230744

ORIGINAL REFERENCE NO.: 101:35045a,35048a

TITLE: The  $\eta^1$ - and  $\eta^2$ -coordination in a  
(phosphaalkene)platinum(0) complex

AUTHOR(S): Van der Knaap, Theodorus A.; Bickelhaupt,  
Friedrich; Kraaykamp, Johanna G.; Van Koten,  
Gerard; Bernards, Jan P. C.; Edzes, Hommo T.;  
Veeman, Wiebren S.; De Boer, Engbert;  
Baerends, Evert J.

CORPORATE SOURCE: Scheikd. Lab., Vrije Univ., Amsterdam, Neth.

SOURCE: Organometallics (1984), 3(12),  
1804-11  
CODEN: ORGN7; ISSN: 0276-7333

DOCUMENT TYPE: Journal  
LANGUAGE: English

ED Entered STN: 22 Dec 1984

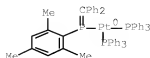
AB The complex (Ph2C:PR)Pt(PPh3)2 (R = mesityl), prepared from (H2:CH2)Pt(PPh3)2 and Ph2C:PR, can coordinate the Ph2C:PR ligand in either the  $\eta^1$ -mode (I) or the  $\eta^2$ -mode (II). Solid-state  $^{31}\text{P}$  NMR spectroscopy confirmed the known  $\eta^1$ -mode in the crystalline state. Temperature-dependent  $^{31}\text{P}$  and  $^{195}\text{Pt}$  NMR spectra in toluene- $d_8$  showed that the equilibrium I  $\rightleftharpoons$  II was established in solution. This is the 1st case of a directly observable equilibrium between the 2 coordination modes. Hartree-Fock-Slater (LCAO-X $\alpha$ ) calcs. on the model system (PH3)2Pt-HP:CH2 showed that the  $\eta^2$ -coordination corresponded to the Dewar-Chatt-Duncanson model and was energetically favored over the  $\eta^1$ -coordination due to the stronger  $\pi$ -back-donation even though the  $\sigma$ -donation was weaker. The differences are not large and may be overruled by nonbonded interactions when larger ligands are involved. Nevertheless, the exptl. evidence proved that the calculated order  $\eta^2 > \eta^1$  holds for the rather bulky ligand Ph2C:PR.

IT 80737-43-5P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP  
(Preparation)

(preparation and coordination of, equilibrium in)

RN 80737-43-5 HCAPLUS

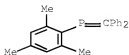
CN Platinum, [(diphenylmethylene) (2,4,6-trimethylphenyl)phosphine]bis(triphenylphosphine)- (CA INDEX NAME)



CC 29-13 (Organometallic and Organometalloidal Compounds)  
 Section cross-reference(s): 22  
 IT 80737-43-5P 89934-21-4P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and coordination of, equilibrium in)  
 L39 ANSWER 13 OF 27 HCAPLUS COPYRIGHT 2009 ACS ON STN  
 ACCESSION NUMBER: 1984:455208 HCAPLUS Full-text  
 DOCUMENT NUMBER: 101:55208  
 ORIGINAL REFERENCE NO.: 101:8581a,8584a  
 TITLE: [4 + 2] cycloaddition reactions of triarylphosphaalkenes  
 AUTHOR(S): Van der Knaap, Theodorus A.; Klebach, Theodorus C.; Visser, Foppe; Lourens, Rimmer; Bickelhaupt, Friedrich  
 CORPORATE SOURCE: Vakgroep Org. Chem., Vrije Univ., Amsterdam, 1081 HV, Neth.  
 SOURCE: Tetrahedron (1984), 40(6), 991-7  
 CODEN: TETRAB; ISSN: 0040-4020  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 OTHER SOURCE(S): CASREACT 101:55208  
 ED Entered STN: 18 Aug 1984  
 GI



AB Cycloaddn. reactions of mesityl(diphenylmethylene)phosphine (I) were investigated. With several dienes, no Diels-Alder reactions were observed. With azides, diphenyldiazomethane and 2,4,6-trimethylbenzonitrile oxide, the corresponding cycloadducts were obtained. Thus, I and PhN<sub>3</sub> gave the cycloadduct II (R = mesityl); RP(:CPh<sub>2</sub>):NPh was also formed from a competing Staudinger reaction.  
 IT 67865-91-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (cycloaddn. reactions of)  
 RN 67565-91-7 HCAPLUS  
 CN Phosphine, (diphenylmethylene) (2,4,6-trimethylphenyl)- (CA INDEX NAME)

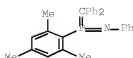


IT 91075-79-5P 91075-80-8P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 91075-79-5 HCAPLUS  
 CN Benzenamine, N-[(diphenylmethylene) (2,4,6-trimethylphenyl)phosphoranylidene]-, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RN 91075-80-8 HCAPLUS  
 CN Benzenamine, N-[(diphenylmethylene)(2,4,6-trimethylphenyl)phosphoranylidene]-, (Z)- (9CI) (CA INDEX NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)  
 IT 67565-91-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (cycloaddn. reactions of)  
 IT 25034-65-5P 25568-84-7P 91075-79-5P  
 91075-80-8P 91075-81-9P 91075-82-0P 91075-83-1P  
 91075-84-2P 91075-85-3P 91075-86-4P 91075-87-5P  
 91108-21-3P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L39 ANSWER 14 OF 27 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:438554 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 101:38554

ORIGINAL REFERENCE NO.: 101:6033a,6036a

TITLE: Synthesis and structure of aryl-substituted phosphaaalkenes

AUTHOR(S): Van der Knaap, T. A.; Klebach, T. C.; Visser, F.; Bickelhaupt, F.; Ros, P.; Baerends, E. J.; Stam, C. H.; Konijn, M.

CORPORATE SOURCE: Vakgroep Org. Chem., Vrije Univ., Amsterdam, 1081 HV, Neth.

SOURCE: Tetrahedron (1984), 40(4), 765-76

CODEN: TETRAB; ISSN: 0040-4020

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 101:38554

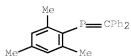
ED Entered STN: 04 Aug 1984

AB The preferred route for preparing RP:CPh2 (I; R = 2,4,6-Me3C6H2, 2,6-Me2C6H3) started from RBr, which were treated with Mg and ClP(NEt2)2 to give RP(NEt2)2. Chlorination of the last gave RPClNEt2, which were alkylated to form RPClCHPh2 (II). Dehydrochlorination of II gave I in 60-85% yield. I have essentially localized P:C bonds and are sterically stabilized. These conclusions were confirmed by HFS-calculns. on model compds. X:CH2 (X = NH, PH, PPh), (E)-HP:CHPh, and (E)-HP:CHNMe2 (III) which identified the P lone pair as HOMO and the  $\pi$ -orbital as NHOMO; however, both orbitals are close in energy. Furthermore, the calculns. revealed the importance of phosphorus d-orbitals in bonding, and the polarization in the P:C bond (P as pos. pole), which had earlier been derived from chemical evidence. Finally, interaction of the P:C bond with P groups did not influence the bonding situation, but substitution by a heteroatom, in III, did. The crystal structure of I (R = 2,4,6-Me3C6H2) showed a short P:C bond length

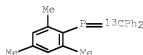
## 10/539,397-292586-EIC SEARCH

and a R-P-C bond angle smaller than expected for purely sp<sup>2</sup>-hybridized atoms, but larger than that in the unsubstituted parent compound HP:CH<sub>2</sub>.

IT 67565-91-7P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and crystal structure of)  
 RN 67565-91-7 HCAPLUS  
 CN Phosphine, (diphenylmethylene) (2,4,6-trimethylphenyl)- (CA INDEX NAME)



IT 90929-04-7P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 90929-04-7 HCAPLUS  
 CN Phosphine, (diphenylmethylene-13C) (2,4,6-trimethylphenyl)- (9CI)  
 (CA INDEX NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)  
 Section cross-reference(s): 22, 75  
 IT 67565-91-7P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and crystal structure of)  
 IT 85320-16-7P 85320-25-8P 90929-00-3P 90929-01-4P  
 90929-02-5P 90929-04-7P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L39 ANSWER 15 OF 27 HCAPLUS COPYRIGHT 2009 ACS ON STN

ACCESSION NUMBER: 1984:191971 HCAPLUS Full-text

DOCUMENT NUMBER: 100:191971

ORIGINAL REFERENCE NO.: 100:29191a,29194a

TITLE: Reactivity of phosphalkenes

AUTHOR(S): Van der Knaap, Theodorus A.; Bickelhaupt, Friedrich

CORPORATE SOURCE: Vakgroep Org. Chem., Vrije Univ., Amsterdam, Meth.

SOURCE: Phosphorus and Sulfur and the Related Elements (1983), 18(1-2-3), 47-50

CODEN: PREEDF; ISSN: 0308-664X

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 08 Jun 1984

AB The reactions of RP:CPh<sub>2</sub> (R = 2,4,6-Me<sub>3</sub>C<sub>6</sub>H<sub>2</sub>; 2,6-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>) with oxidants O<sub>2</sub>, S<sub>8</sub>, Se, Te, H<sub>2</sub>O<sub>2</sub>, with o-quinones, and with Pt(0)- and Ni(0)-complexes were described.

IT 89982-79-6P 89982-81-0P 89982-83-2P

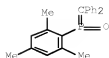
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

## 10/539,397-292586-EIC SEARCH

(preparation and reaction of, with ethanol)

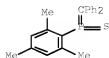
RN 89982-79-6 HCAPLUS

CN Phosphine oxide, (diphenylmethylene) (2,4,6-trimethylphenyl)- (CA INDEX NAME)



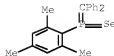
RN 89982-81-0 HCAPLUS

CN Phosphine sulfide, (diphenylmethylene) (2,4,6-trimethylphenyl)- (CA INDEX NAME)



RN 89982-83-2 HCAPLUS

CN Phosphine selenide, (diphenylmethylene) (2,4,6-trimethylphenyl)- (CA INDEX NAME)



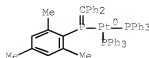
IT 80737-43-5P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(preparation and structure of)

RN 80737-43-5 HCAPLUS

CN Platinum, [(diphenylmethylene) (2,4,6-trimethylphenyl)phosphine]bis(triphenylphosphine)- (CA INDEX NAME)

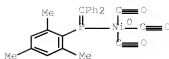


IT 89001-33-2P

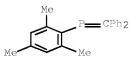
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 89001-33-2 HCAPLUS

CN Nickel, tricarbonyl[(diphenylmethylene) (2,4,6-trimethylphenyl)phosphine]-, (T-4)- (CA INDEX NAME)



IT 67565-91-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reactions of)  
 RN 67565-91-7 HCAPLUS  
 CN Phosphine, (diphenylmethylene) (2,4,6-trimethylphenyl)- (CA INDEX  
 NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)  
 IT 85830-26-8P 89982-79-6P 89982-81-0P  
 89982-82-1P 89982-83-2P 89982-87-6P 89982-88-7P  
 89982-89-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and reaction of, with ethanol)  
 IT 80737-43-5P 89934-21-4P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP  
 (Preparation)  
 (preparation and structure of)  
 IT 6782-00-9P 85320-17-8P 85320-18-9P 85320-19-0P 85354-76-3P  
 85814-50-2P 89001-33-2P 89183-92-6P 89291-02-1P  
 89291-07-6P 89291-08-7P 89291-12-3P 89934-20-3P  
 89982-84-3P 89982-85-4P 89982-86-5P 89982-90-1P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 IT 67565-91-7 85320-16-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reactions of)

L39 ANSWER 16 OF 27 HCAPLUS COPYRIGHT 2009 ACS ON STN

ACCESSION NUMBER: 1984:175046 HCAPLUS Full-text

DOCUMENT NUMBER: 100:175046

ORIGINAL REFERENCE NO.: 100:26633a,26636a

TITLE: Syntheses, structures, and photoelectron  
 spectra of phosphaaalkenes and phosphaaalkynes  
 and their transition metal complexes

AUTHOR(S): Burckett-St. Laurent, J. C. T. R.; Hitchcock,  
 P. B.; King, M. A.; Kroto, H. W.; Meidine, M.  
 F.; Klein, S. I.; Al-Resayes, S. I.; Suffolk,  
 R. J.; Nixon, J. F.

CORPORATE SOURCE: Sch. Chem. Mol. Sci., Univ. Sussex,  
 Brighton/Sussex, BN1 9QJ, UK

SOURCE: Phosphorus and Sulfur and the Related Elements  
 (1983), 18(1-2-3), 259-62

CODEN: PREEDF; ISSN: 0308-664X

DOCUMENT TYPE: Journal

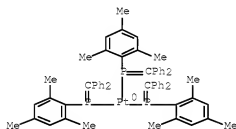
LANGUAGE: English

ED Entered STN: 26 May 1984

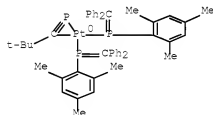
GI



- AB Me<sub>3</sub>CC.tplbond.P reacted with Co<sub>2</sub>(CO)<sub>8</sub> to give Co<sub>2</sub>(CO)<sub>6</sub>(P.tplbond.CCMe<sub>3</sub>), which reacted with W(CO)<sub>5</sub>(THF) (I) to give the cluster compound II [M = Co(CO)<sub>3</sub>]. Similarly, Me<sub>3</sub>CC.tplbond.P reacted with Cp(CO)<sub>2</sub>Mo.tplbond.Mo(CO)<sub>2</sub>Cp (Cp = cyclopentadienyl) and I to give II [M = Mo(CO)<sub>2</sub>Cp]. Treating PtL<sub>2</sub> (L = cyclooctadiene) with RP:CPh<sub>2</sub> (R = mesityl) gave (η<sup>1</sup>-PR:CPh<sub>2</sub>)<sub>3</sub>Pt. PtL<sub>2</sub> reacted with RP:CPh<sub>2</sub> and Me<sub>3</sub>CC.tplbond.P to form (η<sup>1</sup>-PR:CPh<sub>2</sub>)<sub>2</sub>(η<sup>2</sup>-Me<sub>3</sub>CC.tplbond.P)Pt.
- IT 89041-27-0P 89041-28-1P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)
- RN 89041-27-0 HCAPLUS
- CN Platinum, tris[(diphenylmethylene) (2,4,6-trimethylphenyl)phosphine]- (CA INDEX NAME)



- RN 89041-28-1 HCAPLUS
- CN Platinum, [η<sup>2</sup>-(2,2-dimethylpropylidyne)phosphine]bis[(diphenylmethylene) (2,4,6-trimethylphenyl)phosphine]- (9CI) (CA INDEX NAME)



- CC 29-13 (Organometallic and Organometalloidal Compounds)
- IT 84685-75-6P 84698-60-2P 89041-27-0P  
89041-28-1P 89869-53-4P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

L39 ANSWER 17 OF 27 HCAPLUS COPYRIGHT 2009 ACS on STN  
ACCESSION NUMBER: 1984:121313 HCAPLUS [Full-text](#)  
DOCUMENT NUMBER: 100:121313  
ORIGINAL REFERENCE NO.: 100:18469a,18472a

## 10/539,397-292586-EIC SEARCH

TITLE: Complex formation between nickel(0) and a phosphalkene: influence of the second ligand on the  $\eta^1$ - and  $\eta^2$ -coordination mode

AUTHOR(S): Van der Knaap, Theodorus A.; Jenneskens, Leo W.; Meeuwissen, Hendrik J.; Bickelhaupt, Friedrich; Walther, Dirk; Dinjus, Eckard; Uhlig, Egon; Spek, Anthony L.

CORPORATE SOURCE: Vakgroep Org. Chem., Vrije Univ., Amsterdam, 1081 HV, Neth.

SOURCE: Journal of Organometallic Chemistry (1983), 254(3), C33-C36  
CODEN: JORCAI; ISSN: 0022-328X

DOCUMENT TYPE: Journal

LANGUAGE: English

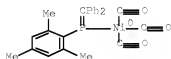
ED Entered STN: 12 May 1984

AB Treating  $\text{LNiL}$  ( $\text{L} = 2,2'$ -bipyridine;  $\text{L} = 1,5$ -cyclooctadiene) with  $\text{Ph}_2\text{C:PC}_6\text{H}_3\text{Me}_2$ -2,6 gave  $\mu_2$ -( $\text{Ph}_2\text{C:PC}_6\text{H}_4\text{Me}_2$ -2,6) $\text{Ni}_2\text{L}$ , which was characterized by x-ray anal. In contrast, treating  $\text{Ni}(\text{CO})_4$  with  $\text{Ph}_2\text{C:PR}$  ( $\text{R} = \text{C}_6\text{H}_2\text{Me}_3$ -2,4,6) gave  $(\text{CO})_3\text{Ni}(\eta^1\text{-PR:CPh}_2)$ , which gave  $(\text{CO})_2\text{Ni}(\text{PR:CPh}_2)_2$  by CO loss.

IT 89001-33-2P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and carbon monoxide loss of)

RN 89001-33-2 HCAPLUS

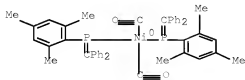
CN Nickel, tricarbonyl[(diphenylmethylene) (2,4,6-trimethylphenyl)phosphine]-, (T-4)- (CA INDEX NAME)



IT 88994-64-3P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 88994-64-3 HCAPLUS

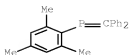
CN Nickel, dicarbonylbis[(diphenylmethylene) (2,4,6-trimethylphenyl)phosphine]-, (T-4)- (CA INDEX NAME)



IT 67565-91-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with nickel tetracarbonyl)

RN 67565-91-7 HCAPLUS

CN Phosphine, (diphenylmethylene) (2,4,6-trimethylphenyl)- (CA INDEX NAME)



CC 29-13 (Organometallic and Organometalloidal Compounds)  
 Section cross-reference(s): 75  
 IT 89001-33-2P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and carbon monoxide loss of)  
 IT 88994-64-3P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 IT 67565-91-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with nickel tetracarbonyl)

L39 ANSWER 18 OF 27 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1984:103587 HCAPLUS Full-text

DOCUMENT NUMBER: 100:103587

ORIGINAL REFERENCE NO.: 100:15749a,15752a

TITLE: Synthesis of  $\eta^1$ - and  $\eta^2$ -phosphaalkene-transition metal complexes and the first examples of complexes containing only ligated phospho alkenes and phospho alkynes

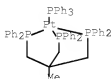
AUTHOR(S): Al-Resayes, Saud I.; Klein, Stanley I.; Kroto, Harold W.; Meidine, Mohamed F.; Nixon, John F.  
 CORPORATE SOURCE: Sch. Chem. Mol. Sci., Univ. Sussex, Brighton, BN1 9QJ, UK

SOURCE: Journal of the Chemical Society, Chemical Communications (1983), (17), 930-2  
 CODEN: JCCCAT; ISSN: 0022-4936

DOCUMENT TYPE: Journal  
 LANGUAGE: English

ED Entered STN: 12 May 1984

GI



I



II

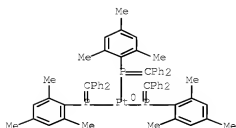
AB Displacement reactions of the Pt complex I unexpectedly gave the  $\eta^2$ -complexes II (L =  $\eta^2$ -Ph2C:PC6H2Me3-2,4,6,  $\eta^2$ -Me3CC.tplbond.P). However, treatment of Pt(COD)2 (III; COD = 1,5-cyclooctadiene) with Ph2C:PC6H2Me3-2,4,6 (L1) gave  $\eta^1$ -P+L13. Similarly, treatment of III with a 2:1 mixture of L1 and P.tplbond.CCMe3 (L2) gave ( $\eta^1$ -L1)2Pt( $\eta^2$ -L2).

IT 89041-27-0P 89041-28-1P

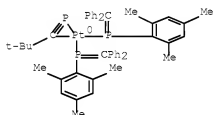
RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

RN 89041-27-0 HCAPLUS

CN Platinum, tris[(diphenylmethylene)(2,4,6-trimethylphenyl)phosphine]- (CA INDEX NAME)



RN 89041-28-1 HCAPLUS  
 CN Platinum, [η2-(2,2-dimethylpropylidene)phosphine]bis[(diphenylmethylene) (2,4,6-trimethylphenyl)phosphine]- (9CI) (CA INDEX NAME)



CC 29-13 (Organometallic and Organometalloidal Compounds)  
 IT 89041-26-9P 89041-27-0P 89041-28-1P  
 89063-20-7P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L39 ANSWER 19 OF 27 HCAPLUS COPYRIGHT 2009 ACS ON STN

ACCESSION NUMBER: 1983:405700 HCAPLUS Full-text

DOCUMENT NUMBER: 99:5700

ORIGINAL REFERENCE NO.: 99:1041a,1044a

TITLE: Oxidation reactions of phosphalkenes

AUTHOR(S): Van der Knaap, T. A.; Klebach, T. C.; Lourens, R.; Vos, M.; Bickelhaupt, F.

CORPORATE SOURCE: Vakgroep Organ. Chem., Vrije Univ., Amsterdam, 1081 HV, Meth.

SOURCE: Journal of the American Chemical Society ( 1983), 105(12), 4026-32

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 99:5700

ED Entered STN: 12 May 1984

AB Phosphaalkenes such as 2,4,6-Me<sub>3</sub>C<sub>6</sub>H<sub>2</sub>P:CPh<sub>2</sub> (I) and 2,6-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>P:CPh<sub>2</sub> (II) are quite reactive in many respects but are rather sluggish in their reaction with O and S. Primary intermediates in the reactions of II are its oxide, 2,6-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>P(O):CPh<sub>2</sub> (III) [or the S analog 2,6-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>P(S):CPh<sub>2</sub>, resp.], and the phosphinidene oxide 2,6-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>P(O): (IV) [or its S analog 2,6-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>P(S):], which together with (thio)benzophenone is formed by oxidative cleavage of the P:C bond. The occurrence of these unstable intermediates is concluded from their interception by ethanol [yielding 2,6-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>P(O) (OEt)CHPh<sub>2</sub> (V) and IV] or water [yielding 2,6-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>P(O) (OH)CHPh<sub>2</sub> (VI) and 2,6-Me<sub>2</sub>C<sub>6</sub>H<sub>3</sub>P(O) (OH)H] in the O reactions and by ethanol [yielding 2,6-

## 10/539,397-292586-EIC SEARCH

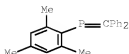
Me2C6H3P(S)(OEt)CHPh2 and 2,6-Me2C6H3P(S)(OEt)H in the S reaction. With O, III reacts in part further under cleavage of the P:C bond and formation of benzophenone and the phosphinidene dioxide 2,6-Me2C6H3PO2 which is intercepted by ethanol [yielding 2,6-Me2C6H3P(O)(OEt)(OH)] or water [yielding 2,6-Me2C6H3P(O)(OH)2]. These interception reactions are feasible because I and II are unreactive towards water and alc. in the absence of acid or base catalysis. Treatment of II with H2O2 in ethanol proceeds also largely via III; it leads to V, VI, and 2,6-Me2C6H3P(O)(CHPh2)H; in this case, cleavage of the P:C bond is not observed. The mechanism of these reactions and the competition between various reactants (e.g., between O, H2O, EtOH) are discussed. The structure of the reaction products is determined from their spectral properties and by alternative synthesis along unequivocal routes.

IT 67565-91-7

RL: RCT (Reactant); RACT (Reactant or reagent)  
(oxidation of)

RN 67565-91-7 HCAPLUS

CN Phosphine, (diphenylmethylene) (2,4,6-trimethylphenyl)- (CA INDEX  
NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)

IT 67565-91-7 85320-16-7 85320-24-7

RL: RCT (Reactant); RACT (Reactant or reagent)  
(oxidation of)

L39 ANSWER 20 OF 27 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1982:582527 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 97:182527

ORIGINAL REFERENCE NO.: 97:30545a,30548a

TITLE: A nucleophilic reaction of a phosphalkene:  
the methylation of  
mesityldiphenylmethylenephosphine

AUTHOR(S): Van der Knaap, T. A.; Bickelhaupt, F.

CORPORATE SOURCE: Vakgroep Org. Chem., Vrije Univ. De Boelelaan,  
Amsterdam, 1081 HV, Neth.

SOURCE: Tetrahedron Letters (1982), 23(19),  
2037-40

CODEN: TELEAY; ISSN: 0040-4039

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 12 May 1984

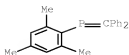
AB Methylation of 2,4,6-Me3C6H2P:CPh2 (I) with MeI in a sealed vessel at 50° for 24 h in the dark gave 80% 2,4,6-Me3C6H2P(Ime):CPh2 (II) and 1-5% 2,4,6-Me3C6H2P+Me2CHPh2 I- (III). The reaction mechanism involves nucleophilic attack of the P atom of I on MeI to form the reactive intermediate 2,4,6-Me3C6H2P+Me:CPh2 I-, which gave II on addition of I- whereas addition of MeI followed by elimination gave III. The regioselectivity of the addition reactions of I is discussed.

IT 67565-91-7

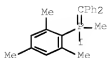
RL: RCT (Reactant); RACT (Reactant or reagent)  
(methylation of, mechanism of)

RN 67565-91-7 HCAPLUS

CN Phosphine, (diphenylmethylene) (2,4,6-trimethylphenyl)- (CA INDEX  
NAME)



IT 83438-74-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and nucleophilic addition reactions of)  
 RN 83438-74-8 HCAPLUS  
 CN Phosphorane, (diphenylmethylene)iodomethyl (2,4,6-trimethylphenyl)-  
 (9CI) (CA INDEX NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)  
 IT 67565-91-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (methylation of, mechanism of)  
 IT 83438-74-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation and nucleophilic addition reactions of)

L39 ANSWER 21 OF 27 HCAPLUS COPYRIGHT 2009 ACS ON STN

ACCESSION NUMBER: 1982:448559 HCAPLUS Full-text

DOCUMENT NUMBER: 97:48559

ORIGINAL REFERENCE NO.: 97:8031a,8034a

TITLE: Synthesis and phosphorus-31 NMR spectra of  
 some platinum(II) complexes of the  
 phospho-alkene, (mesityl)P=CPh<sub>2</sub>. Crystal and  
 molecular structure of

cis-[PtCl<sub>2</sub>(PET<sub>3</sub>)(C<sub>6</sub>H<sub>2</sub>Me<sub>3</sub>P=CPh<sub>2</sub>)]·CHCl<sub>3</sub>  
 AUTHOR(S): Kroto, Harold W.; Nixon, John F.; Taylor,  
 Michael J.; Frew, Aileen A.; Muir, Kenneth W.  
 CORPORATE SOURCE: Sch. Chem. Mol. Sci., Univ. Sussex, Brighton,  
 BN1 9QJ, UK

SOURCE: Polyhedron (1982), 1(1), 89-95

CODEN: PLYHDE; ISSN: 0277-5387

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 12 May 1984

AB Syntheses of the phospho-alkene complexes cis- and trans-[PtCl<sub>2</sub>(PET<sub>3</sub>)L] (L = 2,4,6-  
 Me<sub>3</sub>C<sub>6</sub>H<sub>2</sub>P=CPh<sub>2</sub>) and cis-[PtX<sub>2</sub>L<sub>2</sub>] (X = Cl, I, Me) complexes are reported. <sup>31</sup>P NMR  
 spectra indicate that bonding of the phospho-alkene to the metal is via the P lone pair  
 and this is confirmed by a single crystal x-ray diffraction study of cis-  
 [PtCl<sub>2</sub>(PET<sub>3</sub>)L]·CHCl<sub>3</sub>.

IT 82383-13-9

RL: PRP (Properties)

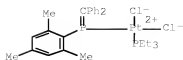
(crystal and mol structure of)

RN 82383-13-9 HCAPLUS

CN Platinum, dichloro[(diphenylmethylene) (2,4,6-  
 trimethylphenyl)phosphine] (triethylphosphine)-, (SP-4-3)-, compd.  
 with trichloromethane (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 78777-26-1  
 CMF C28 H36 Cl2 P2 Pt  
 CCI CCS

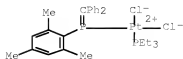


CM 2

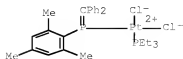
CRN 67-66-3  
 CMF C H Cl3



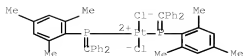
IT 78777-26-1P 78822-10-3P 82335-44-2P  
 82335-45-3P 82335-46-4P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP  
 (Preparation)  
 (preparation and NMR of)  
 RN 78777-26-1 HCAPLUS  
 CN Platinum, dichloro[(diphenylmethylene) (2,4,6-  
 trimethylphenyl)phosphine] (triethylphosphine)-, (SP-4-3)- (CA  
 INDEX NAME)



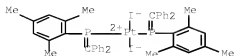
RN 78822-10-3 HCAPLUS  
 CN Platinum, dichloro[(diphenylmethylene) (2,4,6-  
 trimethylphenyl)phosphine] (triethylphosphine)-, (SP-4-1)- (CA  
 INDEX NAME)



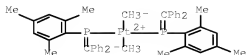
RN 82335-44-2 HCAPLUS  
 CN Platinum, dichlorobis[(diphenylmethylene) (2,4,6-  
 trimethylphenyl)phosphine]-, (SP-4-2)- (CA INDEX NAME)



RN 82335-45-3 HCAPLUS  
 CN Platinum, bis[(diphenylmethylene)(2,4,6-trimethylphenyl)phosphine]diiodo-, (SP-4-2)- (CA INDEX NAME)



RN 82335-46-4 HCAPLUS  
 CN Platinum, bis[(diphenylmethylene)(2,4,6-trimethylphenyl)phosphine]dimethyl-, (SP-4-2)- (CA INDEX NAME)



CC 78-7 (Inorganic Chemicals and Reactions)  
 Section cross-reference(s): 75, 77  
 IT 82285-08-3 82383-13-9  
 RL: PRP (Properties)  
 (crystal and mol structure of)  
 IT 78777-21-6P 78777-26-1P 78789-42-1P  
 78822-10-3P 82335-44-2P 82335-45-3P  
 82335-46-4P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP  
 (Preparation)  
 (preparation and NMR of)

L39 ANSWER 22 OF 27 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1982:122995 HCAPLUS [Full-text](#)

DOCUMENT NUMBER: 96:122995

ORIGINAL REFERENCE NO.: 96:20205a,20208a

TITLE: Synthesis and structural investigation of  
 [mesityl(diphenylmethylene)phosphine]bis(triphenylphosphine)platinum(0)

AUTHOR(S): Van der Knaap, T. A.; Bickelhaupt, F.; Van der  
 Poel, H.; Van Koten, G.; Stam, C. H.

CORPORATE SOURCE: Vakgroep Org. Chem., Vrije Univ., Amsterdam,  
 1081 HV, Neth.

SOURCE: Journal of the American Chemical Society (  
 1982), 104(6), 1756-7

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: English

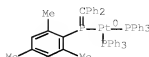
ED Entered STN: 12 May 1984

AB Reaction of (C2H4)Pt(PPh3)2 with RP:CPh2 (I; R = mesityl) in PhMe gave the dark-red complex (RP:CPh2)Pt(PPh3)2 (II). X-ray crystal structure determination showed that Pt

## 10/539,397-292586-EIC SEARCH

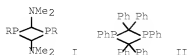
is tricoordinate in II, with the ligand I  $\sigma$ -coordinated via P;  $\eta^2$ -coordination via the P:C  $\pi$  bond does not occur. However, in solution the  $^{31}\text{P}$  NMR data point either to  $\eta^2$ -coordination or to rather unusual bonding interactions between Pt and P in the  $\sigma$ -coordination mode.

IT 80737-43-5P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation, crystal and mol. structure, and phosphorus-31 NMR spectrum of, bonding in relation to)  
 RN 80737-43-5 HCAPLUS  
 CN Platinum, [(diphenylmethylene) (2,4,6-trimethylphenyl)phosphine]bis(triphenylphosphine)- (CA INDEX NAME)



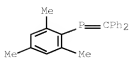
CC 29-13 (Organometallic and Organometalloidal Compounds)  
 IT 80737-43-5P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation, crystal and mol. structure, and phosphorus-31 NMR spectrum of, bonding in relation to)

L39 ANSWER 23 OF 27 HCAPLUS COPYRIGHT 2009 ACS ON STN  
 ACCESSION NUMBER: 1982:122872 HCAPLUS Full-text  
 DOCUMENT NUMBER: 96:122872  
 ORIGINAL REFERENCE NO.: 96:20181a,20184a  
 TITLE: Acyl- and alkylidenephosphines. XVI.  
 (Dimethylaminomethylidene)- and (diphenylmethylidene)phosphines  
 AUTHOR(S): Becker, G.; Uhl, W.; Wessely, H. J.  
 CORPORATE SOURCE: Fachber. Chem., Philipps-Univ., Marburg, Fed. Rep. Ger.  
 SOURCE: Zeitschrift fuer Anorganische und Allgemeine Chemie (1981), 479, 41-56  
 CODEN: ZAACAB; ISSN: 0044-2313  
 DOCUMENT TYPE: Journal  
 LANGUAGE: German  
 OTHER SOURCE(S): CASREACT 96:122872  
 ED Entered STN: 12 May 1984  
 GI



AB  $\text{RP}(\text{SiMe}_3)_2$  (R = 2,4,6-Me<sub>3</sub>C<sub>6</sub>H<sub>2</sub>, CMe<sub>3</sub>, Ph, Me) reacted with DMF or Ph<sub>2</sub>CO with solid NaOH catalyst to give  $\text{RP:CHNMe}_2$  or  $\text{RP:CPh}_2$ , resp. The same products were obtained from  $\text{RPLiSiMe}_3$ .  $\text{RP:CHNMe}_2$  (R = Me, Ph) dimerized to I and  $\text{PhP:CPh}_2$  to II.  
 IT 67565-91-7P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 67565-91-7 HCAPLUS  
 CN Phosphine, (diphenylmethylene) (2,4,6-trimethylphenyl)- (CA INDEX NAME)

(NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)  
 IT 67565-91-7P 79908-16-0P 79908-18-2P 79908-19-3P  
 79908-21-7P 79908-22-8P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L39 ANSWER 24 OF 27 HCAPLUS COPYRIGHT 2009 ACS on STN  
 ACCESSION NUMBER: 1981:497907 HCAPLUS Full-text  
 DOCUMENT NUMBER: 95:97907  
 ORIGINAL REFERENCE NO.: 95:16459a,16462a  
 TITLE: Synthesis of phosphalkene transition metal complexes  
 AUTHOR(S): Eshtiagh-Hosseini, H.; Kroto, Harold W.;  
 Nixon, John F.; Maah, Mohd. Jamil; Taylor,  
 Michael J.  
 CORPORATE SOURCE: Sch. Mol. Sci., Univ. Sussex, Brighton, BN1  
 9QJ, UK  
 SOURCE: Journal of the Chemical Society, Chemical  
 Communications (1981), (4), 199-200  
 CODEN: JCCCAT; ISSN: 0022-4936

DOCUMENT TYPE: Journal  
 LANGUAGE: English

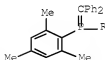
ED Entered STN: 12 May 1984

AB The coordination complexes cis-M(CO)4L2 (M = Cr, Mo, W), trans-RhCl(PPh3)2L, trans-RhClL2(CO), Rh(η<sup>5</sup>-indenyl)L2, cis-PtR2L2, (R = Cl, iodo, Me), and cis- and trans-PtCl2(PtEt3)L [L = PR:CPh2 (R = mesityl)] were prepared by substitution of transition metal complexes with PR:CPh2 (R = mesityl) (I). I coordinates to the metal via the P lone pair.

IT 78777-19-2P 78777-20-5P 78777-26-1P  
 78777-34-1P 78777-35-2P 78777-36-3P  
 78777-37-4P 78784-52-6P 78784-53-9P  
 78784-54-0P 78790-07-5P 78822-10-3P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

RN 78777-19-2 HCAPLUS

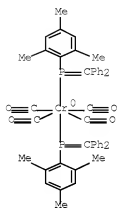
CN Tungsten, pentacarbonyl[(diphenylmethylene) (2,4,6-trimethylphenyl)phosphine]-, (OC-6-22)- (CA INDEX NAME)



RN 78777-20-5 HCAPLUS

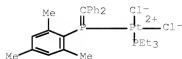
CN Chromium, tetracarbonylbis[(diphenylmethylene) (2,4,6-

trimethylphenyl)phosphine]-, (OC-6-22)- (CA INDEX NAME)



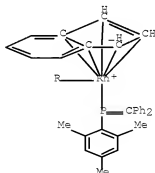
RN 78777-26-1 HCAPLUS

CN Platinum, dichloro[(diphenylmethylene) (2,4,6-trimethylphenyl)phosphine] (triethylphosphine)-, (SP-4-3)- (CA INDEX NAME)

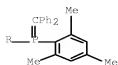


RN 78777-34-1 HCAPLUS

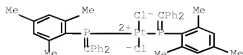
CN Rhodium, bis[(diphenylmethylene) (2,4,6-trimethylphenyl)phosphine] [(1,2,3,3a,7a-η)-1H-inden-1-yl]- (CA INDEX NAME)



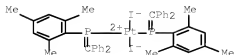
PAGE 1-A



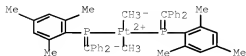
RN 78777-35-2 HCAPLUS  
 CN Platinum, dichlorobis[(diphenylmethylene)(2,4,6-trimethylphenyl)phosphine]- (CA INDEX NAME)



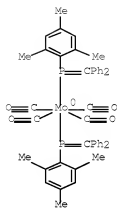
RN 78777-36-3 HCAPLUS  
 CN Platinum, bis[(diphenylmethylene)(2,4,6-trimethylphenyl)phosphine]diiodo- (CA INDEX NAME)



RN 78777-37-4 HCAPLUS  
 CN Platinum, bis[(diphenylmethylene)(2,4,6-trimethylphenyl)phosphine]dimethyl- (CA INDEX NAME)

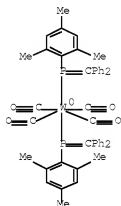


RN 78784-52-8 HCAPLUS  
 CN Molybdenum, tetracarbonylbis[(diphenylmethylene)(2,4,6-trimethylphenyl)phosphine]-, (OC-6-22)- (CA INDEX NAME)



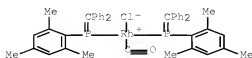
RN 78784-53-9 HCAPLUS

CN Tungsten, tetracarbonylbis[(diphenylmethylene) (2,4,6-trimethylphenyl)phosphine]-, (OC-6-22)- (CA INDEX NAME)



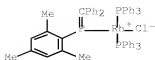
RN 78784-54-0 HCAPLUS

CN Rhodium, carbonylchlorobis[(diphenylmethylene) (2,4,6-trimethylphenyl)phosphine]-, (SP-4-3)- (CA INDEX NAME)

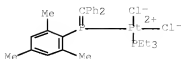


RN 78790-07-5 HCAPLUS

CN Rhodium, chloro[(diphenylmethylene) (2,4,6-trimethylphenyl)phosphine]bis(triphenylphosphine)-, (SP-4-2)- (CA INDEX NAME)



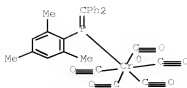
RN 78822-10-3 HCAPLUS  
 CN Platinum, dichloro[(diphenylmethylene)(2,4,6-trimethylphenyl)phosphine](triethylphosphine)-, (SP-4-1)- (CA INDEX NAME)



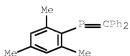
CC 29-7 (Organometallic and Organometalloidal Compounds)  
 IT 78777-19-2P 78777-20-5P 78777-21-6P  
 78777-23-8P 78777-26-1P 78777-34-1P  
 78777-35-2P 78777-36-3P 78777-37-4P  
 78778-33-3P 78784-52-8P 78784-53-9P  
 78784-54-0P 78789-42-1P 78790-07-5P  
 78822-10-3P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

L39 ANSWER 25 OF 27 HCAPLUS COPYRIGHT 2009 ACS ON STN  
 ACCESSION NUMBER: 1981:462349 HCAPLUS [Full-text](#)  
 DOCUMENT NUMBER: 95:62349  
 ORIGINAL REFERENCE NO.: 95:10539a,10542a  
 TITLE: Synthesis and structure of  
 pentacarbonyl(mesityldiphenylmethylenephosphine)  
 chromium(0)  
 AUTHOR(S): Klebach, Theodorus C.; Lourens, Rimmer;  
 Bickelhaupt, Friedrich; Stam, Casper H.; Van  
 Herk, Alex  
 CORPORATE SOURCE: Vakgroep Org. Chem., Vrije Univ., Amsterdam,  
 1081 HV, Neth.  
 SOURCE: Journal of Organometallic Chemistry (1981), 210(2), 211-21  
 CODEN: JORCAI; ISSN: 0022-328X  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English

ED Entered STN: 12 May 1984  
 AB Mesityl(diphenylmethylene)phosphine (I), a stable all-C substituted phosphalkene, reacts with Cr(CO)5·THF to furnish the title compound II, a relatively air-stable complex. Spectral data suggest a close structural similarity between the free and the complexed ligand and indicate I to be a ligand of moderate basicity towards Cr. X-ray crystal and mol. structure determination showed the phosphalkene moiety to be nearly planar with a typically short P:C bond length of 1.679(4) Å and a C-P-C bond angle of 109.8(2)°. From a discussion of the bond lengths, it is tentatively concluded that in II, I is a π-acceptor of intermediate strength.  
 IT 78506-28-2P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and crystal structure of)  
 RN 78506-28-2 HCAPLUS  
 CN Chromium, pentacarbonyl[(diphenylmethylene)(2,4,6-trimethylphenyl)phosphine]-, (OC-6-22)- (CA INDEX NAME)



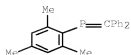
IT 67565-91-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with pentacarbonyl(tetrahydrofuran)chromium)  
 RN 67565-91-7 HCAPLUS  
 CN Phosphine, (diphenylmethylene) (2,4,6-trimethylphenyl)- (CA INDEX NAME)



CC 29-11 (Organometallic and Organometalloidal Compounds)  
 Section cross-reference(s): 75  
 IT 78506-28-2P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP  
 (Preparation)  
 (preparation and crystal structure of)  
 IT 67565-91-7  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (reaction of, with pentacarbonyl(tetrahydrofuran)chromium)  
 L39 ANSWER 26 OF 27 HCAPLUS COPYRIGHT 2009 ACS ON STN  
 ACCESSION NUMBER: 1978:509798 HCAPLUS Full-text  
 DOCUMENT NUMBER: 89:109798  
 ORIGINAL REFERENCE NO.: 89:16933a,16936a  
 TITLE:  
 Synthesis of  
 mesityldiphenylmethylenephosphine: a stable  
 compound with a localized phosphorus:carbon  
 bond  
 Klebach, T. C.; Lourens, R.; Bickelhaup, F.  
 CORPORATE SOURCE: Scheikd. Lab., Vrije Univ. Amsterdam,  
 Amsterdam, Neth.  
 SOURCE: Journal of the American Chemical Society ( 1978), 100(15), 4886-8  
 CODEN: JACSAT; ISSN: 0002-7863  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 ED Entered STN: 12 May 1984  
 AB The reaction of R<sub>2</sub>PCl<sub>2</sub> (R = 2,4,6-Me<sub>3</sub>C<sub>6</sub>H<sub>2</sub>) with Ph<sub>2</sub>CHLi gave RClPCHPh<sub>2</sub> which, on treatment with 1,5-diazabicyclo[5.4.0]undec-5-ene, gave RP:CPh<sub>2</sub> in almost quant. yield. Addition of HCl to RP:CPh<sub>2</sub> yielded RClPCHPh<sub>2</sub> and MeONa catalyzed addition of MeOH to RP:CPh<sub>2</sub> gave R(MeO)PCHPh<sub>2</sub> indicating a polarization of the P:C bond with P as the pos. end.  
 IT 67565-91-7P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP  
 (Preparation)  
 (preparation and spectral properties of)  
 RN 67565-91-7 HCAPLUS

## 10/539,397-292586-EIC SEARCH

CN Phosphine, (diphenylmethylene) (2,4,6-trimethylphenyl)- (CA INDEX NAME)



CC 29-7 (Organometallic and Organometalloidal Compounds)  
 IT 67565-91-7P  
 RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
 (preparation and spectral properties of)

L39 ANSWER 27 OF 27 HCAPLUS COPYRIGHT 2009 ACS on STN

ACCESSION NUMBER: 1973:419154 HCAPLUS Full-text

DOCUMENT NUMBER: 79:19154

ORIGINAL REFERENCE NO.: 79:3087a,3090a

TITLE: Regiospecific 1,3-dipolar cycloaddition  
 polymerization of keto-stabilized  
 bisalkylidenephosphoranes with bisazides

AUTHOR(S): Ykman, P.; L'Abbe, G.; Smets, G.

CORPORATE SOURCE: Dep. Chem., Univ. Louvain, Heverlee, Belg.

SOURCE: Journal of the Indian Chemical Society (1972), 49(12), 1245-50

CODEN: JICSAH; ISSN: 0019-4522

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 12 May 1984

AB Thermostable poly(1,2,3-triazoles) [I, R = m- or p-C6H4, p-C6H4OC6H4-p; R1 = Et, H; R2 = m-C6H4, (CH2)3, or (CH2)6] were prepared by the regiospecific reaction of bisazides with keto-stabilized bisalkylidenephosphoranes in Me2SO. All the polymers contained terminal ylide functions, and most (especially the lower mol. weight fractions) contained azide functions. I were prepared in 86-99% yield in 1-5 days at 80-100.deg.; e.g., 98% p,p'-diazidodiphenyl ether-1,6-bis(triphenylphosphoranylidene)-2,6-heptanedione copolymer [I, R = p-C6H4OC6H4-p, R1 = H, R2 = (CH2)3] [40715-84-2] was prepared after 36 hr at 80.deg.. The bisylides were prepared by treating bisacyl chlorides with 4 equivalent alkylidenephosphoranes in benzene, or by treating 4 equivalent alkylidenephosphoranes in benzene, or by treating bisthiol esters with 2 equivalent of alkylidenephosphoranes in refluxing PhMe.

IT 41900-78-1P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of, regiospecific)

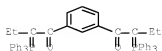
RN 41900-78-1 HCAPLUS

CN 1-Butanone, 1,1'-(1,3-phenylene)bis[2-(triphenylphosphoranylidene)-, polymer with 1,4-diazidobenzene (9CI) (CA INDEX NAME)

CM 1

CRN 41726-53-8

CMF C50 H44 O2 P2



## 10/539,397-292586-EIC SEARCH

CM 2

CRM 2294-47-5

CMF C6 H4 N6



CC 35-3 (Synthetic High Polymers)

Section cross-reference(s): 29

IT 40715-84-2P 41900-78-1P 41900-79-2P 41900-80-5P  
 41900-82-7P 41900-83-8P 41900-84-9P 41909-45-9P  
 41909-46-0P 41909-47-1P 41909-48-2P 41909-49-3P  
 41909-50-6P 41909-51-7P

RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of, regiospecific)

FULL SEARCH HISTORY

=&gt; d his nofile

(FILE 'HOME' ENTERED AT 14:20:57 ON 23 APR 2009)

FILE 'HCAPLUS' ENTERED AT 14:21:26 ON 23 APR 2009

E US20060270805/PN

L1 1 SEA SPE=ON ABB=ON PLU=ON US20060270805/PN  
 D ALL  
 SEL RN

FILE 'REGISTRY' ENTERED AT 14:22:39 ON 23 APR 2009

L2 21 SEA SPE=ON ABB=ON PLU=ON (501418-46-8/BI OR  
 10544-50-0/BI OR 109-72-8/BI OR 119-61-9/BI OR  
 14044-65-6/BI OR 2094-98-6/BI OR 334992-56-2/BI OR  
 501418-47-9/BI OR 591-51-5/BI OR 67565-91-7/BI OR  
 68357-99-3/BI OR 713542-93-9/BI OR 713542-95-1/BI OR  
 713542-97-3/BI OR 713542-99-5/BI OR 713543-00-1/BI OR  
 713543-01-2/BI OR 713543-02-3/BI OR 713543-03-4/BI OR  
 7722-84-1/BI OR 917-54-4/BI)  
 D SCA

FILE 'STNGUIDE' ENTERED AT 14:23:02 ON 23 APR 2009

FILE 'REGISTRY' ENTERED AT 14:25:35 ON 23 APR 2009

L3 12 SEA SPE=ON ABB=ON PLU=ON L2 AND P/ELG  
 D SCA

L4 9 SEA SPE=ON ABB=ON PLU=ON L2 AND PMS/CI  
 D SCA

L5 9 SEA SPE=ON ABB=ON PLU=ON L3 AND L4

L6 3 SEA SPE=ON ABB=ON PLU=ON L3 NOT L4  
 D SCA

FILE 'STNGUIDE' ENTERED AT 14:28:13 ON 23 APR 2009

D SCA L5

FILE 'REGISTRY' ENTERED AT 14:56:36 ON 23 APR 2009

D SCA L5

FILE 'LREGISTRY' ENTERED AT 14:56:53 ON 23 APR 2009

L7 STR

FILE 'REGISTRY' ENTERED AT 14:58:35 ON 23 APR 2009

L8 50 SEA SSS SAM L7

FILE 'REGISTRY' ENTERED AT 14:59:02 ON 23 APR 2009

FILE 'LREGISTRY' ENTERED AT 14:59:04 ON 23 APR 2009

L9 STR L7

FILE 'REGISTRY' ENTERED AT 14:59:33 ON 23 APR 2009

L10 50 SEA SSS SAM L9

L11 1 SEA SPE=ON ABB=ON PLU=ON L2 AND \*(C22 H21 P . C5 H8  
 O2)X"/MF  
 D

E 67565-91-7/RN

L12 1 SEA SPE=ON ABB=ON PLU=ON 67565-91-7/RN  
 D SCA

FILE 'LREGISTRY' ENTERED AT 15:03:10 ON 23 APR 2009

L13 STR 67565-91-7

FILE 'REGISTRY' ENTERED AT 15:03:38 ON 23 APR 2009

D QUE STAT L10

E STYRENE/CN

## 10/539,397-292586-EIC SEARCH

L14 1 SEA SPE=ON ABB=ON PLU=ON STYRENE/CN  
 D  
 L15 81738 SEA SPE=ON ABB=ON PLU=ON 100-42-5/CRN  
 FILE 'LREGISTRY' ENTERED AT 15:11:20 ON 23 APR 2009  
 L16 STR  
 FILE 'REGISTRY' ENTERED AT 15:12:01 ON 23 APR 2009  
 L17 50 SEA SSS SAM L16  
 FILE 'LREGISTRY' ENTERED AT 15:13:28 ON 23 APR 2009  
 L18 STR L16  
 FILE 'REGISTRY' ENTERED AT 15:18:10 ON 23 APR 2009  
 L19 10854 SEA SSS FUL L16  
 L20 10 SEA SPE=ON ABB=ON PLU=ON L2 AND L19  
 D QUE L18  
 L21 0 SEA SUB=L19 SSS SAM L18  
 L22 2 SEA SUB=L19 SSS FUL L18  
 D SCA  
 D L22 1-2 RN  
 L23 1 SEA SPE=ON ABB=ON PLU=ON 89982-81-0/RN  
 D  
 L24 0 SEA SPE=ON ABB=ON PLU=ON 89982-81-0/CRN  
 L25 1 SEA SPE=ON ABB=ON PLU=ON 89982-79-6/RN  
 D  
 D CRN  
 L26 0 SEA SPE=ON ABB=ON PLU=ON 89982-79-6/CRN  
 SAV TEMP L19 PEZ397REG/A  
 L27 2 SEA SPE=ON ABB=ON PLU=ON L19 AND L15  
 SAV TEMP L27 PEZ397REG/A  
 D QUE STAT L22  
 SAV TEMP L2 PEZ397REG/A  
 D QUE STAT  
 D QUE STAT L17  
 D QUE STAT L18  
 L28 0 SEA SUB=L19 SSS SAM L18  
 D QUE STAT  
 FILE 'LREGISTRY' ENTERED AT 15:28:00 ON 23 APR 2009  
 L29 STR L18  
 FILE 'REGISTRY' ENTERED AT 15:28:36 ON 23 APR 2009  
 L30 2 SEA SUB=L19 SSS SAM L29  
 L31 42 SEA SUB=L19 SSS FUL L29  
 L32 2 SEA SPE=ON ABB=ON PLU=ON L22 AND L19  
 D SCA  
 L33 15 SEA SPE=ON ABB=ON PLU=ON L19 AND PMS/CI  
 L34 50 SEA SPE=ON ABB=ON PLU=ON L27 OR (L31 OR L32 OR L33)  
 FILE 'HCAPLUS' ENTERED AT 15:37:20 ON 23 APR 2009  
 L35 40 SEA SPE=ON ABB=ON PLU=ON L34  
 L36 1 SEA SPE=ON ABB=ON PLU=ON L1 AND L35  
 L37 QUE SPE=ON ABB=ON PLU=ON PY=<2003 NOT P/DT  
 L38 QUE SPE=ON ABB=ON PLU=ON (PY=<2003 OR PRY=<2003 OR  
 AY=<2003 OR MY=<2003 OR REVIEW/DT) AND P/DT  
 L39 27 SEA SPE=ON ABB=ON PLU=ON L35 AND (L37 OR L38)  
 D QUE L27  
 SAV TEMP L39 PEZ397HCP/A  
 D QUE STAT L39  
 D L39 1-27 IBIB ED ABS HITSTR HITIND